



Showing Eye-Hole  
in Fluorescent Box  
and Solid Cube Of Wood.

# MR. EDISON'S ASTOUNDING DISCOVERY.

## The Great Inventor Succeeds in Seeing Through an Eight-Inch Solid Block of Wood with the Naked Eye.

Thomas A. Edison has progressed so far in his experiments with the Roentgen ray that it is now possible to see with the naked eye through a solid block of wood eight inches in depth.

This marvelous feat was accomplished by Mr. Edison yesterday in the presence of a reporter for the Sunday Journal. The reporter himself, after Mr. Edison had arranged all the apparatus so that the best results could be seen, looked through the eight-inch block, which was of solid, heavy yellow pine, and saw distinctly the outlines of his fingers at the other end.

### STARTLING POSSIBILITIES.

Mr. Edison declares that it is simply a question of further experiment and more powerful light when the human eye will be able to see through solid metals, brick walls, sealed letters and the human body. Mr. Edison believes that there is no reason why physicians may not look into our heart, lungs and stomach. *A 624*

Mr. Edison has been at his experiments practically day and night since the discovery of the Roentgen ray was first announced. His aim has been to do away with photography in penetrating solid substances, and to perfect his apparatus so that the human eye can do the work of the photographic plate.

"It is simply," said Mr. Edison, "a question of perfecting the apparatus. To that end I am working. Roentgen's results dem-

onstrate conclusively that if we only can secure the proper condition there is no reason why the human eye, with the aid of the X ray, cannot penetrate walls just as easy as it now penetrates the open atmosphere. You can see for yourself what we can do already with conditions that are by no means controllable or absolute."

### IN THE LABORATORY.

Mr. Edison thereupon permitted the reporter to see for himself just what could be done. The experiments at the laboratory out in Orange are conducted in a darkened room, where the machinery for the exhaustion of incandescent lamps is mounted. It is here that the Crookes tubes, which are nothing more or less than a sort of double incandescent lamp, without wires, are prepared for the experiments. The tubes are glass bulbs, oblong in shape, and with pear-shaped ends. The two poles are fastened at either end, from which wires that run to the battery are connected.

From the centre of the middle of the tube, which varies in length from four to six or seven inches, a stem-like arrangement runs. This stem fits into the exhaust tube, through which by means of a constant falling of mercury all the air is drawn out. Frequent tests are made during the process, and as soon as the character of the light demonstrates that the exhaustion has been completed—that is, when it burns with a steady yellow glow—the tube

*Cable Address  
"Edison, New York"*

*From the Laboratory  
of  
Thomas A. Edison.  
Orange, N.J.*

*By proper arrangements I can see  
with the naked eye all the bones of  
the hand, and can see moving objects  
through eight inches of wood —*

*Edison*

is sealed at the stem. This sealing process is accomplished by heating the stem until it melts and draws very much as molasses candy draws in the pulling. A few sharp twists and the end is closed and the tube is ready for experimenting.

To show what an infinite amount of patience and trouble it requires in these experiments, Mr. Edison said:

"Before sealing the tubes we now heat this stem that you see there, in order to drive off all the gases that have generated or that may be generated. It took us a week to learn this one little fact, which is of striking importance, for the gases, as we now know, that are generated from the glass itself when it is heated by the electric current that generates the cathode rays are sufficient to spoil every experiment that is made and to prevent the best possible results. So delicately must the conditions be adjusted that it makes all the difference in the world in getting results who did the glass-blowing for the tubes. If the glass-blower has been drinking beer, the effect can be noticed almost instantly, and conditions arise that make successful tests impossible until the gases that remain in the glass from this beer are driven out."

"Day after day we have gone along in the past getting splendid results for a few seconds, perhaps, and then, without any apparent reason, the whole thing suddenly collapsed and we have got nothing. The light looked the same, the tube acted just

as it acts when the results are good, and to all appearances everything was just right. But the thing simply would give no results. What we are striving after now is to learn just what is necessary, what exists when the conditions are perfect and the cathode rays act successfully. So far we are still in the dark. The heating of the stem of the tubes and the driving out of the gases in this way has been a step, but only a step. There are other things necessary, and what they are is the problem which we must solve. When we have solved that there is no reason why we cannot look through bones, and we will yet, mark me, see the day, and within a very short time, when a surgeon can hold one of these lamps on one side of the head and look through and see with the naked eye exactly what is going on inside. My experiments convince me of that, though my progress has been more than slow."

"What we have accomplished so far is very encouraging. With the aid of a fluorescent screen we have been able to see objects through all manner of substances except metals, bone and a few other substances. Here, try this yourself. We will begin with this copy of a magazine. You see it is over half an inch of solid paper, and yet with the aid of our screen you can demonstrate for yourself that you can see through it, that it is translucent."

The "fluorescent screen" of which Mr. Edison looked the same, the tube acted just

Continued on Eighteenth Page